INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS

VOLUME 2
1969

Published by
PLENUM PUBLISHING CO. LTD
Donington House, 30 Norfolk Street, London WC2

Volume 2 Number 1: May 1969

On Causal Dynamics Without Metrisation: Part II
M. COLE 1

On Causal Dynamics Without Metrisation: Part III
M. COLE 23

Momentum Transfer in Crystal Lattices with Vibrating Atoms
E. R. FITZGERALD 41

Proper-Connected-Diagram Expansion of Electrical Conductivity for Electron-Impurity Systems
S. FUJITA and C. C. CHEN 59

Derivation of the Most General Relativistic Transformation Law of Quantum Fields
R. L. INGRAHAM 83

On the Effect of Absorption of Gravitation
D.-E. LIEBSCHER 89

Volume 2 Number 2: June 1969

What is a Hidden Variable Theory of Quantum Phenomena?
J. BUB 101

The Principle of Equivalence, Electrodynamics and General Relativity
J. COHN 125

Negative Absorption by the Electrons in a Magnetic Trap
D. GALTSOV 139

Coexistent Effects in Quantum Mechanics
K.-E. HELLWIG 147

Qualitative Features of Quantized Gravitation
A. KOMAR 157

Relativistic Fluid Dynamics in a Non-Vacuum Régime
M. Z. V. KRZYWOBLOCKI 161

Oscillating Universe and Scalar Field
N. ROSEN 189

Volume 2 Number 3: October 1969

Causality Restrictions on Relativistic Extensions of Particle Symmetries
P. ROMAN and R. M. SANTILLI 201
Modular Variables in Quantum Theory
Y. AHARONOV et al. 213
Vacuum Metrics Without Symmetry
I. ROBINSON and J. R. ROBINSON 231
A Generalized Reissner-Nordström Solution
I. ROBINSON et al. 243
Unified Field Theory of Quarks and Electrons
P. C. M. YOCK 247
Time in General Relativity
J. W. KUMMER and S. A. BASRI 255
On a Physical Interpretation of the Schwarzschild Metric
J. COHN 267
Subquantum Dynamics
J. G. GILSON 281
Quasar Red Shifts
J. YATES 293
Computers and Physical Axiomatics
J. YATES 297
The Covariant Derivative in the Affine Approach to General Relativity
B. KNIGHT 301
Quantum Number of B-Mesons
P. CHAND 309
The Speed of Light in a Moving Medium
D. A. EVANS 313
The Implicit Spin Magnetic and Electric Moments of an Electron Moving in Accordance with the Lorentz-Dirac Equation
P. F. BROWNE 319

Volume 2 Number 4: December 1969

On the Nature of Theories of Irreversible Processes
TA-YOU WU 325
Abstract Scattering Theory
N. S. KRONFLI 345
The Problem of Casuality in an Indeterministic Science
H. MEHLBERG 351
Solutions of Maxwell's Equations for Charge Moving with the Speed of Light
W. B. BONNOR 373
On the Geometric Foundations of Nuclear Shell Structure
R. RAMANNA and S. JYOTHI 381
Fifth Interaction and Weak Interaction
P. CHAND 405
Additional Remarks on the Principle of Equivalence, Electrodynamics and General Relativity
J. COHN 407

INDEX TO AUTHORS

AHARONOV, Y. *Modular Variables in Quantum Theory* ... 213
BASRI, S. A. *Time in General Relativity* ... 255
BONNOR, W. B. *Solutions of Maxwell's Equations for Charge Moving with the Speed of Light* 373
BROWNE, P. F. *The Implicit Spin Magnetic and Electric Moments of an Electron Moving in Accordance with the Lorentz-Dirac Equation* ... 319
BUB, J. *What is a Hidden Variable Theory of Quantum Phenomena?* ... 101
CHAND, P. *Quantum Number of B-Mesons* ... 309
CHAND, P. *Fifth Interaction and Weak Interaction* ... 405
CHEN, C. C. *Proper-Connected-Diagram Expansion of Electrical Conductivity for Electron-Impurity System* ... 59
COHN, J. *The Principle of Equivalence, Electrodynamics and General Relativity* ... 125
COHN, J. *On a Physical Interpretation of the Schwarschild Metric* ... 267
COHN, J. *Additional Remarks on the Principle of Equivalence, Electrodynamics and General Relativity* ... 407
COLE, M. *On Causal Dynamics Without Metrisation: Part II* ... 1
COLE, M. *On Causal Dynamics Without Metrisation: Part III* ... 23
EVANS, D. A. *The Speed of Light in a Moving Medium* ... 313
FITZGERALD, E. R. *Momentum Transfer in Crystal Lattices with Vibrating Atoms* ... 41
FUJITA, S. *Proper-Connected-Diagram Expansion of Electrical Conductivity for Electron-Impurity System* ... 59
GALTSOV, D. *Negative Absorption by the Electrons in a Magnetic Trap* ... 139
GILSON, J. G. *Subquantum Dynamics* ... 281
HELLWIG, K.-E. *Coexistent Effects in Quantum Mechanics* ... 147
INGRAHAM, R. L. *Derivation of the Most General Relativistic Transformation Law of Quantum Fields* ... 83
JYOTHI, S. *On the Geometric Foundations of Nuclear Shell Structure* ... 381
KNIGHT, B. *The Covariant Derivative in the Affine Approach to General Relativity* ... 301
KOMAR, A. *Qualitative Features of Quantized Gravitation* ... 157
KRONFLI, N. S. *Abstract Scattering Theory* ... 345
KRZYOBLOCKI, M. Z. V. *Relativistic Fluid Dynamics in a Non-Vacuum Régime* ... 161
KUMMER, J. W. *Time in General Relativity* ... 255
LIEBSCHER, D.-E. *On the Effect of Absorption of Gravitation* ... 89
MEHLBERG, H. *The Problem of Causality in an Indeterministic Science* ... 351
PENDLETON, H. *Modular Variables in Quantum Theory* ... 213
PETERSEN, A. *Modular Variables in Quantum Theory* ... 213
RAMANNA, R. *On the Geometric Foundations of Nuclear Shell Structure* ... 381
ROBINSON, I. *Vacuum Metrics Without Symmetry* ... 231
ROBINSON, I. *A Generalized Reissner-Nordström Solution* ... 243
ROBINSON, J. R. *Vacuum Metrics Without Symmetry* ... 231
ROMAN, P. *Causality Restrictions on Relativistic Extensions of Particle Symmetries* ... 201
ROSEN, N. *Oscillating Universe and Scalar Field* ... 189
SANTILLI, R. M. *Causality Restrictions on Relativistic Extensions of Particle Symmetries* ... 201
SCHILD, A. *A Generalized Reissner-Nordström Solution* ... 243
STRAUSS, H. *A Generalized Reissner-Nordström Solution* ... 243
WU, TA-YOU. *On the Nature of Theories of Irreversible Processes* ... 325
YATES, J. *Quasar Red Shifts* ... 293
YATES, J. *Computers and Physical Axiomatics* ... 297
YOCK, P. C. M. *Unified Field Theory of Quarks and Electrons* ... 247